

CLAIMS

What is claimed is:

- 5 1. In a first access point, a method of supporting mobility for a node that does not support Mobile IP, comprising:
- receiving access point information from a second access point;
- storing the access point information, the access point information including an access point subnet and a gateway; and
- 10 sending the access point information to a third access point that supports Mobile IP, thereby enabling the third access point to compare a received data packet with the access point subnet to determine whether to send a registration request on behalf of the node using the gateway as the node's Home Agent.
- 15 2. The method as recited in claim 1, wherein the first access point and the second access point support Mobile IP.
3. The method as recited in claim 1, wherein the first access point is responsible for sending the received access point information to one or more additional access
- 20 points.
4. The method as recited in claim 1, wherein the first access point is responsible for sending the received access point information to one or more active access points.

5. The method as recited in claim 1, wherein the second access point is an active access point.

5 6. The method as recited in claim 1, wherein the third access point is an active access point.

7. The method as recited in claim 6, further comprising:
identifying the third access point in a list of active access points that identifies
one or more active access points prior to sending the access point information to the
third access point.

8. The method as recited in claim 1, further comprising:
updating a list of active access points to include the second access point, the
list of active access points identifying one or more active access points.

9. The method as recited in claim 8, wherein the list of active access points
comprises an IP address for each of the active access points.

10. The method as recited in claim 1, further comprising:
sending access point information for one or more additional access points to
the second access point, the access point information including an access point subnet
and a gateway.

11. The method as recited in claim 1, wherein the access point information further comprises at least one of a netmask and an IP address associated with the second access point.

5

12. The method as recited in claim 1, wherein storing the access point information comprises:

storing the access point information in a subnet mapping table including a plurality of entries, each of the plurality of entries being associated with a different access point.

13. The method as recited in claim 1, further comprising:

deleting the access point information associated with the second access point;

and

instructing the third access point to delete the access point information associated with the second access point.

14. The method as recited in claim 13, further comprising:

removing an IP address associated with the second access point from a list of active access points.

15. A first access point that supports mobility for a node that does not support Mobile IP, comprising:

means for receiving access point information from a second access point;

means for storing the access point information, the access point information including an access point subnet and a gateway; and

means for sending the access point information to a third access point that supports Mobile IP, thereby enabling the third access point to compare a received data packet with the access point subnet to determine whether to send a registration request on behalf of the node using the gateway as the node's Home Agent.

16. A first access point that supports mobility for a node that does not support Mobile IP, comprising:

a processor; and

a memory, at least one of the processor and the memory being adapted for:

receiving access point information from a second access point;

storing the access point information, the access point information including an access point subnet and a gateway; and

sending the access point information to a third access point that supports Mobile IP, thereby enabling the third access point to compare a received data packet with the access point subnet to determine whether to send a registration request on behalf of the node using the gateway as the node's Home Agent.

17. A computer-readable medium storing thereon computer-readable instructions for supporting mobility for a node that does not support Mobile IP in a first access point, comprising:

instructions for receiving access point information from a second access point;

instructions for storing the access point information, the access point information including an access point subnet and a gateway; and

instructions for sending the access point information to a third access point that supports Mobile IP, thereby enabling the third access point to compare a received data packet with the access point subnet to determine whether to send a registration request on behalf of the node using the gateway as the node's Home Agent.

18. In an Access Point that supports Mobile IP, a method of sending a mobile IP registration request on behalf of a node that does not support Mobile IP, comprising:

receiving a data packet, the data packet specifying a source address;

determining from the source address whether the node is located on a subnet identical to a subnet of the Access Point;

when it is determined from the source address that the node is located on the subnet identical to the subnet of the Access Point, no Mobile IP service is required on behalf of the node; and

when it is determined from the source address that the node is not located on the subnet identical to the subnet of the Access Point, composing and sending a mobile IP registration request on behalf of the node.

19. The method as recited in claim 18, wherein determining from the source address whether the node is located on a subnet identical to a subnet of the Access Point comprises:

comparing the source address with access point information associated with one or more access points, the access point information including an access point

subnet.

20. The method as recited in claim 19, wherein the access point information
further comprises a gateway and wherein the mobile IP registration request specifies
the gateway as the node's Home Agent.

21. The method as recited in claim 20, wherein determining from the source
address whether the node is located on a subnet identical to a subnet of the Access
Point comprises:

ascertaining the access point subnet identical to that of the node; and
determining whether the access point subnet identical to that of the node is
different from that of the Access Point.

22. The method as recited in claim 21, further comprising:
when the access point subnet identical to that of the node is different from that
of the Access Point, obtaining the access point information including the gateway.

23. The method as recited in claim 19, wherein determining from the source
address whether the node is located on a subnet identical to a subnet of the Access
Point comprises:

ascertaining the access point subnet identical to that of the node; and
determining whether the access point subnet identical to that of the node is
different from that of the Access Point.

5

24. An Access Point that supports Mobile IP, the Access Point being adapted for a
sending a mobile IP registration request on behalf of a node that does not support
Mobile IP, comprising:

means for receiving a data packet, the data packet specifying a source address;

means for determining from the source address whether the node is located on
a subnet identical to a subnet of the Access Point;

means for composing and sending a mobile IP registration request on behalf of
the node when it is determined from the source address that the node is not located on
the subnet identical to the subnet of the Access Point, wherein no Mobile IP service is
required on behalf of the node when it is determined from the source address that the
node is located on the subnet identical to the subnet of the Access Point.

25. An Access Point that supports Mobile IP, the Access Point being adapted for a
sending a mobile IP registration request on behalf of a node that does not support
Mobile IP, comprising:

a processor; and

a memory, at least one of the processor and the memory being adapted for:

receiving a data packet, the data packet specifying a source address;

determining from the source address whether the node is located on a

subnet identical to a subnet of the Access Point;

when it is determined from the source address that the node is located on the subnet identical to the subnet of the Access Point, no Mobile IP service is required on behalf of the node; and

when it is determined from the source address that the node is not located on the subnet identical to the subnet of the Access Point, composing and sending a mobile IP registration request on behalf of the node.

26. A computer-readable medium storing thereon computer-readable instructions for sending a mobile IP registration request on behalf of a node that does not support Mobile IP in an Access Point that supports Mobile IP, comprising:

instructions for receiving a data packet, the data packet specifying a source address;

instructions for determining from the source address whether the node is located on a subnet identical to a subnet of the Access Point; and

instructions for composing and sending a mobile IP registration request on behalf of the node when it is determined from the source address that the node is not located on the subnet identical to the subnet of the Access Point, wherein no Mobile IP service is required on behalf of the node when it is determined from the source address that the node is located on the subnet identical to the subnet of the Access Point.

27. In a first access point that supports Mobile IP, a method of supporting

mobility for a node that does not support Mobile IP, comprising:

sending a first set of access point information associated with the first access point to one or more access points, the first set of access point information including a first access point subnet and a first gateway associated with the first access point;

5 receiving a second set of access point information from a second access point, the second set of access point information including a second access point subnet and a second gateway; and

storing the second set of access point information, thereby enabling the first access point to compare a received data packet with the second access point subnet to determine whether to send a registration request on behalf of the node using the second gateway as the node's Home Agent.

10080999-032002
15 28. The method as recited in claim 27, wherein the second set of access point information is associated with a third access point.

20 29. The method as recited in claim 28, wherein the second access point is responsible for sending the second set of access point information to one or more active access points.

30. The method as recited in claim 27, wherein the one or more access points comprise the second access point.

31. The method as recited in claim 30, wherein the second set of access point information is associated with a third access point, wherein the second access point is responsible for sending the first set of access point information to a set of one or more active access points, thereby enabling the set of one or more active access points to compare a received data packet with the first access point subnet to determine whether to send a registration request on behalf of the node using the first gateway as the node's Home Agent.

32. The method as recited in claim 27, wherein the first set of access point information enables the one or more access points to compare a received data packet with the first access point subnet to determine whether to send a registration request on behalf of the node using the first gateway as the node's Home Agent.

33. The method as recited in claim 27, wherein the second set of access point information is associated with the second access point.

34. The method as recited in claim 27, wherein the second access point is responsible for sending access point information associated with one or more active access points to the active access points.

35. The method as recited in claim 27, further comprising:
sending a request to the second access point for access point information
associated with one or more active access points.

5

36. The method as recited in claim 27, further comprising:
deleting a set of access point information.

37. The method as recited in claim 36, further comprising:
receiving a remove message indicating that the set of access point information
is to be deleted prior to deleting the set of access point information.

38. The method as recited in claim 37, wherein the set of access point information
is the second set of access point information.

39. The method as recited in claim 27, further comprising:
sending a remove message to the second access point indicating that the first
set of access point information is to be deleted.

40. The method as recited in claim 27, further comprising:

sending a remove message to the second access point indicating that active access points are to delete the first set of access point information.

41. A first access point that supports Mobile IP, the first access point being adapted for performing a method of supporting mobility for a node that does not support Mobile IP, comprising:

means for sending a first set of access point information associated with the first access point to one or more access points, the first set of access point information including a first access point subnet and a first gateway associated with the first access point;

means for receiving a second set of access point information from a second access point, the second set of access point information including a second access point subnet and a second gateway; and

means for storing the second set of access point information, thereby enabling the first access point to compare a received data packet with the second access point subnet to determine whether to send a registration request on behalf of the node using the second gateway as the node's Home Agent.

42. A first access point that supports Mobile IP, the first access point being adapted for supporting mobility for a node that does not support Mobile IP, comprising:

a processor; and

a memory, at least one of the processor and the memory being adapted for:

sending a first set of access point information associated with the first

access point to one or more access points, the first set of access point information including a first access point subnet and a first gateway associated with the first access point;

receiving a second set of access point information from a second access point, the second set of access point information including a second access point subnet and a second gateway; and

storing the second set of access point information, thereby enabling the first access point to compare a received data packet with the second access point subnet to determine whether to send a registration request on behalf of the node using the second gateway as the node's Home Agent.

43. A computer-readable medium storing thereon computer-readable instructions for supporting mobility for a node that does not support Mobile IP in a first access point that supports Mobile IP, comprising:

instructions for sending a first set of access point information associated with the first access point to one or more access points, the first set of access point information including a first access point subnet and a first gateway associated with the first access point;

instructions for receiving a second set of access point information from a second access point, the second set of access point information including a second access point subnet and a second gateway; and

instructions for storing the second set of access point information, thereby enabling the first access point to compare a received data packet with the second access point subnet to determine whether to send a registration request on behalf of

